

AMENDED CLAIMS

(Version with Markings To Show Changes Made)

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)

20. (Currently Amended) An implantable delivery system for delivering doses of genetic material to cardiac tissue, comprising:

[a supply of] recombinant nucleic acid vectors encoding a conduction protein selected from the group Cx40, Cx43, and Cx45;

a catheter, said catheter having a distal tip portion for engaging the cells of said cardiac tissue and delivering thereto said recombinant nucleic acid vectors;

a reservoir means for holding said [supply of] recombinant nucleic acid vectors, said reservoir means located proximal to the said distal tip portion of said catheter; and

a delivery means for delivering and transfecting or [transducing]transducing a therapeutically effective amount of said recombinant nucleic acid vectors from said reservoir means through said distal tip portion of said catheter to said cardiac tissue such that said cardiac tissue is transfected or transduced with said recombinant nucleic acid vectors;

wherein said catheter additionally comprises a mapping electrode means, a pacing electrode means, and a conductor means for connecting said mapping electrode means and a pacing electrode means to the proximal end of said catheter; and

wherein said mapping electrode means provides the means of determining the location of said cardiac tissue deficient in connexin expression for transfection or [transducting of]transducing said cells in said cardiac tissue and wherein said pacing electrode means provides means for testing or controlling the effect of the expression of said [connexin proteins] recombinant nucleic acid vectors with a pacemaker.

21. (Cancelled)
22. (Cancelled)
23. (Cancelled)
24. (Cancelled)
25. (Cancelled)
26. (Cancelled)
27. (Cancelled)
28. (Cancelled)
29. (Cancelled)
30. (Cancelled)
31. (Cancelled)
32. (Cancelled)
33. (Cancelled)
34. (Cancelled)
35. (Cancelled)
36. (Cancelled)
37. (Cancelled)
38. (Cancelled)
39. (Cancelled)
40. (Cancelled)

P3569.01 Continuation
Serial No. 09/376,317

41. (Cancelled)
42. (Cancelled)
43. (Cancelled)
44. (Cancelled)
45. (Cancelled)
46. (Cancelled)
47. (Cancelled)
48. (Cancelled)
49. (Cancelled)
50. (Cancelled)
51. (Cancelled)
52. (Cancelled)
53. (Cancelled)
54. (Cancelled)
55. (Cancelled)
56. (Cancelled)
57. (Cancelled)
58. (Cancelled)
59. (Cancelled)
60. (Cancelled)
61. (Cancelled)